(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 23 May 2002 (23.05.2002)

PCT

(10) International Publication Number WO 02/041587 A3

(51) International Patent Classification⁷: 12/56, H04Q 7/38

H04L 12/28,

- (U
- (21) International Application Number: PCT/US01/51306
- (22) International Filing Date: 22 October 2001 (22.10.2001)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/241,975

23 October 2000 (23.10.2000) U

- 09/911,092
- 23 July 2001 (23.07.2001) US
- (71) Applicant: BLUESOCKET, INC. [US/US]; 7 New England Executive Park, Burlington, MA 01803 (US).
- (72) Inventor: CROSBIE, B., David; 47 Bay State Avenue, Somerville, MA 02144 (US).

- (74) Agent: TESTA, HURWITZ & THIBEAULT, LLP; High Street Tower, 125 High Street, Boston, MA 02110 (US)...
- (81) Designated States (national): AU, CA, JP.
- (84) Designated States (regional): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

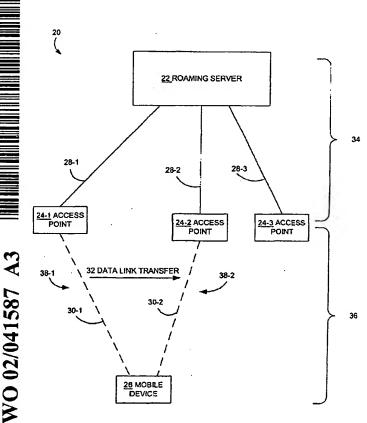
Published:

with international search report

(88) Date of publication of the international search report: 27 February 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR ENABLING CENTRALIZED CONTROL OF WIRELESS LOCAL AREA NETWORKS



(57) Abstract: A wireless local area network (WLAN) (36) includes mobile devices (26) that are allowed to transfer wireless connections between WLAN subnets or channels having different access points (24). The access points connect to a central controller or roaming server (22) that supports seamless hand-offs of mobile devices from one access point to another access point. The roaming server supports the reassignments of session data parameters from one access point to another (e.g., access point address spoofing) so that the mobile device can use the same parameters for comminicating to a new access point. The roaming server also supports the seamless handoff of a mobile device from one access point to another by using a master-slave switch technique across two piconets. The roaming server also facilitates the control of access points by establishing a host controller interface and wireless protocol stack in the roaming server then encapsulates host controller commands in a packet based network protocol used for communication between the roaming server and the access points.

i itional Application No PCT/US 01/51306

CLASSIFICATION OF SUBJECT MATTER
PC 7 H04L12/28 H04L12/56 H04Q7/38According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04L H04Q Documentation searched other than minimum documentation to the extent that such documents are included in the fleids searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) WPI Data, PAJ, EPO-Internal, INSPEC C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X US 5 901 144 A.(AOYAMA KENICHI ET AL) 1-23 4 May 1999 (1999-05-04) column 1, line 4 -column 3, line 47 column 9, line 56 -column 10, line 27 Α 24,27, 30,31, 34,37-39 EP 0 964 599 A (LUCENT TECHNOLOGIES INC) χ 1-23 15 December 1999 (1999-12-15) page 2, paragraph 1 -page 4, paragraph 23 page 7, paragraph 73 claims 1.2 A 24,27, 30,31, 34.37-39 -/--Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but clied to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of mailing of the international search report Date of the actual completion of the International search 21 November 2002 03/12/2002 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Vaskimo, K

I Itional Application No PCT/US 01/51306

		PCT/US 01/51306				
C.(Continue	Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT					
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.				
X	US 6 038 458 A (SIIRA MIKKO) 14 March 2000 (2000-03-14) column 1, line 6 -column 3, line 19 column 3, line 66 -column 5, line 29	1-23 24,27,				
·		30,31, 34,37-39				
A	EP 0 984 639 A (NIPPON ELECTRIC CO) 8 March 2000 (2000-03-08) abstract page 4, paragraph 16 page 11, paragraph 47	1-23				
A	MICHEL MOULY, MARIE-BERNADETTE PAUTET: "GSM - The System for Mobile Communications" 2 September 1993 (1993-09-02), MICHEL MOULY, MARIE-BERNADETTE PAUTET, PALAISEAU, FRANCE XP002221665 200240 page 327 -page 330	1-23				
A	ANON: "Bluesocket Secures 5M in First-Round Funding from St- Paul Venture Capital and Osborn Capital LLC" BLUESOCKET PRESS RELEASE, 'Online! 6 September 2000 (2000-09-06), pages 1-2, XP002221664 Retrieved from the Internet: <url:http: funding.html="" news="" www.bluesocket.com=""> 'retrieved on 2002-11-19! the whole document</url:http:>	24,27,30				
A	US 6 026 297 A (HAARTSEN JACOBUS CORNELIS) 15 February 2000 (2000-02-15) column 1, line 5 -column 3, line 25 column 3, line 46 -column 4, line 55					
P,A	JENNIFER BRAY, CHARLES F STURMAN: "Bluetooth - Connect Without Cables" 20 March 2001 (2001-03-20), PRENTICE HALL PTR, UPPER SADDLE RIVER, NEW JERSEY, USA XP002221666 page 84, paragraph 5.7page 86, paragraph 5.8					
P,A	JENNIFER BRAY, CHARLES F STURMAN: "Bluetooth - Connect Without Cables" 20 March 2001 (2001-03-20), PRENTICE HALL PTR, UPPER SADDLE RIVER, NEW JERSEY, USA XP002221667 page 115 -page 118	31,34, 37-39				
·						

etional Application No PCT/US 01/51306

		PCI/US 01	751300
C.(Continu Category *	etion) DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages	···	Relevant to claim No.
Category	Cuation of document, with thincation, where appropriate, of the relevant passages		Helevani to ciaim No.
A	EP 0 982 662 A (ST MICROELECTRONICS INC) 1 March 2000 (2000-03-01) page 2, paragraph 1 -page 3, paragraph 11 page 8, paragraph 51	31,34, 37-39	
A	US 5 423 065 A (PINARD DEBORAH) 6 June 1995 (1995-06-06) abstract column 1, line 7 - line 68 column 2, line 24 - line 27 column 3, line 3 - line 13		31,34, 37-39
			* 4 4.
			Ģ.

ternational application No. PCT/US 01/51306

INTERNATIONAL SEARCH REPORT

Box I	Observations where certain claims were found unsearchabl (Continuation of item 1 of first sheet)				
This Inte	This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:				
1.	Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:				
2.	Claims Nos.: because they relate to parts of the international Application that do not comply with the prescribed requirements to such an extent that no meaningful international Search can be carried out, specifically:				
3.	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).				
Box II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)				
This Inte	ernational Searching Authority found multiple inventions in this international application, as follows:				
	see additional sheet				
1.	As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.				
2. X	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.				
3.	As only some of the required additional search fees were timely paid by the applicant, this international Search Report covers only those claims for which fees were paid, specifically claims Nos.:				
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the Invention first mentioned in the claims; it is covered by claims Nos.:				
Remark	on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.				

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-23

Method and system for performing a seamless handover, where session data is assigned to an initial access point, where a handover is performed, and where the session data is transferred from the initial acces point to a target access point.

2. Claims: 24-30

Method and system for performing a seamless handover, where a mobile device is assigned a master role in an initial piconet, where a target access point is assigned a slave role in the initial piconet, and where the mobile device and the target access point perform a master/slave switch.

3. Claims: 31-39

Method and system for performing a seamless handover, where a host controller interface is established, and where host controller commands sent from a host to a mobile device through a set of access access points are encapsulated.

ational Application No PCT/US 01/51306

Patent document died in search report	Publication date	Patent family Publication member(s) date
US 5901144 A	04-05-1999	CN 1140963 A ,B 22-01-1997 JP 3241589 B2 25-12-2001 JP 8340569 A 24-12-1996 US 6333923 B1 25-12-2001 US 2002031106 A1 14-03-2002
EP 0964599 A	15-12-1999	AU 3390999 A 23-12-1999 BR 9915627 A 24-07-2001 EP 0964599 A2 15-12-1999 JP 2000032533 A 28-01-2000 KR 2000005974 A 25-01-2000
US 6038458 A	14-03-2000	AU 732183 B2 12-04-2001 AU 7894298 A 31-07-1998 EP 0956726 A2 17-11-1999 WO 9830031 A2 09-07-1998 JP 2001507538 T 05-06-2001 NO 993234 A 29-06-1999
EP 0984639 A	08-03-2000	JP 3111992 B2 27-11-2000 JP 2000031892 A 28-01-2000 AU 3907399 A 20-01-2000 EP 0984639 A2 08-03-2000
US 6026297 A	15-02-2000	AU 751671 B2 22-08-2002 AU 9195098 A 05-04-1999 BR 9812219 A 18-07-2000 CN 1270726 T 18-10-2000 EE 200000135 A 15-02-2001 EP 1016242 A1 05-07-2000 JP 2001517022 T 02-10-2001 PL 339345 A1 18-12-2000 WO 9914898 A1 25-03-1999
EP 0982662 A	01-03-2000	EP 0982662 A2 01-03-2000 JP 2000124931 A 28-04-2000
US 5423065 A	06-06-1995	CA 2062040 A1 29-08-1993 DE 4305654 A1 30-09-1993 GB 2264841 A ,B 08-09-1993 IT 1263523 B 05-08-1996 MX 9301113 A1 01-09-1993